

Amendments to the Claims

1. (Original) A method for analyzing an organelle-localized protein, which enables one to determine whether or not a test protein localizes to an organelle, and comprises the following steps:

(a) a step of introducing a fusion peptide (a), which comprises one half-peptide of an intein, one half-peptide of a fluorescent protein and an organelle-targeting signal peptide, into a eukaryotic cell;

(b) a step of introducing a test protein bound to a fusion peptide (b), which comprises the other half-peptide of the fluorescent protein and the other half-peptide of the intein, into the eukaryotic cell; and

(c) a step of detecting fluorescence signal emitted by the fluorescent protein.

2. (Original) The method of Claim 1, wherein,
in step (a), two or more types of fusion peptide (a), each comprising one half-peptide of different fluorescent proteins and different organelle-targeting signal peptides, are introduced into a eukaryotic cell;

in step (b), two or more types of fusion peptides (b), each comprising the other half-peptide of the different fluorescent proteins, and each bound to a test protein, is introduced into the eukaryotic cell; and

in step (c), the fluorescent signal is detected.

3. (Currently amended) The method of Claim 1 ~~or 2~~, wherein, in step (a), the fusion peptide (a) is introduced into a eukaryotic cell by transfecting a recombinant vector (A), which expresses the fusion peptide (a), into the eukaryotic cell.

4. (Currently amended) The analysis method of Claim 1 ~~or 2~~, wherein, in step (b), the test protein and the fusion peptide (b) are introduced into a eukaryotic cell by transfecting a

recombinant vector (B), which expresses the fusion peptide (b) and the test protein as a unit, into the eukaryotic cell.

5. (Original) A fusion peptide (a), which comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.

6. (Original) A fusion peptide (b), which comprises a half-peptide of a fluorescent protein and a half-peptide of an intein.

7. (Original) A recombinant vector (A), which expresses a fusion peptide (a) comprising a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.

8. (Original) A recombinant vector (B), which expresses a fusion peptide (b) comprising a half-peptide of a fluorescent protein and a half-peptide of an intein, and an arbitrary test protein bound thereto.

9. (Currently amended) A probe set for analyzing organelle-localized protein, comprising the fusion peptide (a) of Claim 5, ~~or the recombinant vector (A) of Claim 7, and the fusion peptide (b) of Claim 6 or the recombinant vector (B) of Claim 8.~~

10. (Original) The probe set according to Claim 9, wherein the fusion peptide (a) or the fusion peptide (a) expressed by the recombinant vector (A) comprises two or more types of fusion peptides, each fusion peptide comprising one half-peptide of a fluorescent protein having different signal characteristics and a different organelle targeting signal peptide; and the fusion peptide (b) comprises two or more types of fusion peptides, each fusion peptide comprising the other half of the fluorescent protein.

11. (Original) A eukaryotic cell, containing a fusion peptide (a), which comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.

12. (Original) A cell kit, comprising two or more of the eukaryotic cells of Claim 11.

13. (Original) A eukaryotic cell, comprising two or more types of fusion peptide (a), wherein each fusion peptide comprises one half-peptide of a fluorescent protein and an organelle targeting signal peptide, the fluorescent protein of each fusion peptide have different signal characteristics and the organelle targeting signal peptide of each fusion peptide target different organelle.

14. (Original) A cell kit, comprising two or more of the eukaryotic cells of Claim 13.

15. (New) A probe set for analyzing organelle-localized protein, comprising the recombinant vector (A) of Claim 7.

16. (New) The probe set according to Claim 15, wherein the fusion peptide (a) or the fusion peptide (a) expressed by the recombinant vector (A) comprises two or more types of fusion peptides, each fusion peptide comprising one half-peptide of a fluorescent protein having different signal characteristics and a different organelle targeting signal peptide; and the fusion peptide (b) comprises two or more types of fusion peptides, each fusion peptide comprising the other half of the fluorescent protein.

17. (New) A probe set for analyzing organelle-localized protein, comprising the fusion peptide (b) of Claim 6.

18. (New) The probe set according to Claim 17, wherein the fusion peptide (a) or the fusion peptide (a) expressed by the recombinant vector (A) comprises two or more types of fusion peptides, each fusion peptide comprising one half-peptide of a fluorescent protein having different signal characteristics and a different organelle targeting signal peptide; and the fusion peptide (b) comprises two or more types of fusion peptides, each fusion peptide comprising the other half of the fluorescent protein.

19. (New) A probe set for analyzing organelle-localized protein, comprising the recombinant vector (B) of Claim 8.

20. (New) The probe set according to Claim 19, wherein the fusion peptide (a) or the fusion peptide (a) expressed by the recombinant vector (A) comprises two or more types of fusion peptides, each fusion peptide comprising one half-peptide of a fluorescent protein having different signal characteristics and a different organelle targeting signal peptide; and the fusion peptide (b) comprises two or more types of fusion peptides, each fusion peptide comprising the other half of the fluorescent protein.